

Good
Practice
Guide

RECYCLING AND WASTE MANAGEMENT



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RECYCLING AND WASTE MANAGEMENT

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WELCOME TO THE GOOD PRACTICE GUIDE TO RECYCLING AND WASTE MANAGEMENT

Businesses are under pressure from all directions to ensure that their waste practices stand up to scrutiny. Customers, staff, shareholders and the government all want to know that organisations are reducing their impact on the environment, meeting legislation and managing their waste in the most cost effective way. Where organisations fall short in this, the media is waiting in the wings to hold a spotlight on these shortcomings and publicise them for all to see.

It's surprising when you think about how quickly this has changed. As little as ten years ago 'rubbish disposal', as it was known then, was an invisible service that Facilities Managers (FMs) provided mainly behind the scenes. Staff and other stakeholders only really saw rubbish disposal when something went wrong like bins not being emptied and collections missed. All companies wanted to know was that their rubbish was taken away by a responsible company. These days, the term rubbish disposal has disappeared and 'recycling and waste management' has taken its place. Not only are recycling and waste management services highly visible but recycling targets and rates achieved are promoted in Corporate Social Responsibility reports, on company websites and posters on walls. Customers make purchasing decisions based on how companies deal with their waste. The stakes are high and along with most of the sustainability agenda, the ultimate responsibility usually sits with FMs.

Against this backdrop, the waste management industry has evolved quickly and continues to do so. New technologies, new containers, new vehicles and new services are being developed all the time. Purchasing waste services has moved on from a simple price and reliability decision to a complex procurement matrix based on sustainability criteria, a company's image, compliance assurance, reporting requirements and many other principles. Companies no longer buy generic waste services but recycling and waste management solutions tailored to their individual requirements.

Recycling and waste management has undoubtedly become an increasingly complex area of facilities management. We recognise that every business has different corporate values, cost constraints, waste streams, storage and collection requirements and we have worked with the BIFM to outline the key principles of good practice in recycling and waste management with this in mind.

We hope this guide helps you to make informed decisions about your waste management practices and procurement processes, further reducing your organisation's impact on the environment.

Tony Windsor
Managing Director
Waste Cost Reduction Services

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1. DRIVERS FOR GOOD PRACTICE

A wide range of factors combine to present a compelling force for implementation of best practice in recycling and waste management. This guide looks at the key drivers and the principles behind best practice, giving practical tips and considerations for Facilities Managers (FMs) looking to improve their recycling, manage their risk and guard their organisation's reputation.

The Three Rs – Recycling, Risk and Reputation

For many organisations, brand values influence all aspects of business operation. Consumer expectations, climate change and the depletion of natural resources have all pushed sustainability to the forefront of these values. But authenticity is critical and business operations must be aligned with brand values or an organisation's corporate reputation is at risk. Waste was once considered a backdoor operation but is now under wider public scrutiny. How would your arrangements stand up to inspection? Do you know where all your wastes are generated and how they are managed – not just the mainstream office wastes but your batteries, cooking oil, paint tins and office chairs?

The importance of good environmental practice

The 'Green Agenda' has long moved on from being of niche interest. Customers, investors, staff and other stakeholders have expectations about how environmentally responsible organisations should operate.

Many organisations will have externally accredited Environmental Management Systems (EMS) that require the monitoring and reporting of waste production, recycling levels and waste minimisation; with targets set for continual improvement.

Extensive legislative requirements

Waste is a tightly regulated area, and legislation can be complex and confusing (see legislation section, page 8).

There is now a great deal of waste legislation covering all aspects, from how waste is defined, stored, collected, brokered, sorted and disposed of. It can be challenging for FMs to keep abreast of the legislation, especially when compliance needs to be demonstrated and auditable.

The political agenda

The popularity of green politics may have waivered through harder economic times but waste remains an area of political interest and debate. Landfill tax has remained a key environmental driver and is set to increase in 2014 to £80 per tonne. Sustainable procurement is a key driver for all public sector contracts which now have greater transparency. Voluntary agreements between the government and industry, such as the Courtauld Commitment (see appendix 2), also lead to best practice.

The increasing cost of generating waste

Costs of waste disposal have risen continually with the impact of the landfill tax escalator. The current landfill tax rate of £72 per tonne (2013/14) equates to over £5 tax per 1100 litre wheelie bin emptied, depending on the weight of material. This does not even capture the value of the wasted products that are being disposed of and the resulting increasing costs of diminishing natural resources. Research conducted on behalf of the Department for Environment, Food and Rural Affairs (Defra) estimates that UK businesses can save up to £23bn through improvements in the efficient use of resources.

Waste is beginning to be viewed as a commodity and this is becoming reflected in how recycling contracts are structured.

A new generation of technology

The landfill tax escalator has provided a financial incentive for investment in alternative technologies to divert waste from landfill and generate energy. There is political support for small scale energy generation facilities to deal with locally arising wastes. This localised approach to managing waste, and much of the new technology being utilised, is already standard practice across the continent. This is now coming on line in the UK, providing alternative and more economical solutions for materials that cannot be recycled.

Figure 1: The increasing cost of landfill tax

Standard rate of landfill tax

Figure 2: The key drivers for good practice in recycling and waste management



2. PRINCIPLES OF GOOD PRACTICE

Sustainable operations

Ensuring that recycling and waste management arrangements are sustainable is a wider consideration than simply trying to recycle more. Wasted resources represent economic, environmental and social impacts; and how organisations manage their wasted resources can mitigate against these impacts and even deliver positive outcomes. Through the procurement process and service specification, FMs can help direct waste collection services to deliver further against sustainability objectives.

Economic Value

- Unused or unwanted resources can potentially be diverted to reuse elsewhere prior to recycling (see 'waste hierarchy' section on page 7)
- Segregated recyclable materials can attract lower collection and sorting fees. They may even lead to a rebate from your waste service contractor.
- Regular auditing can identify avoidable waste streams that can be managed out of the system, reducing waste collection costs (see 'audit' section on page 17)

Environmental Value

- Minimising waste miles helps reduce carbon emissions through greater transport efficiencies
- Prioritising closed loop recycling processes (where waste is recycled back into the original product) helps ensure the environmental potential of a resource is not downgraded
- Selecting waste partners who invest in sorting technology and send residual waste for energy recovery instead of landfill helps reduce the carbon impacts of waste generated

Social Value

- Utilising local disposal facilities helps generate local employment and training opportunities
- Working with the third sector can benefit those in need, many charities and social enterprises provide services in the waste and recycling sector
- Driving greater social value through your supply chain by adding demonstrable commitment to this in the procurement selection process

Figure 3: The interrelated elements of sustainability

Enviromental

Economic

Social



3. THE WASTE HIERARCHY

For a long time, managing waste in line with the principles of the waste hierarchy has been seen as best practice. But the Revised Waste Framework Directive (implemented via the Waste Regulations) has made it a legal requirement for all waste producers to treat waste in line with the hierarchy, following the principles of (in order of preference): reduction, reuse, recycling, recovery and landfillwith as shown in **fig 4**.

By getting an inspired team involved in looking at what waste is generated, where and why, improvements can be made. For those who embrace these principles and take a proactive approach there are significant savings to be made. Demonstrating compliance should involve much more than simply ticking a box.

Examples of waste hierarchy thinking in practice include:

Prevention

- Consider take back schemes for redundant items when purchased, and review options for leasing equipment rather than purchasing
- Refurbish and repair office furniture to extend life cycle
- Ensure printing settings are all automatically set for duplex printing

Reuse

- Consider selling or donating unwanted office items rather than disposing of them

Figure 4: The Waste Hierarchy

REDUCE	Preventing waste
REUSE	Reusing materials
RECYCLE	Turning waste into products
RECOVER	Recovering energy
LANDFILL	Disposing of waste



4. MEETING LEGISLATION

> Work with supply chain partners to return packaging for reuse where possible

> Investigate food banks and other reuse networks for waste streams

Recycling

> Give preference to closed loop recycling processes and local recycling partners

> Measure internal compliance with the recycling system, report and communicate to staff and stakeholders to achieve highest levels of segregation and non-contamination

> Partner with your waste contractor to identify additional outlets for non-recycled waste streams

Recovery

> Choose energy-from-waste facilities over landfill where this option is available. Consider specifying this in contracts.

> Visit waste contractors' sites; audit their reporting and their disposal trails

Landfill

Landfill is very much the last resort and, whilst in some geographic locations energy recovery may not yet be a viable option, efforts should be focused on identifying opportunities for reduction and reuse of the waste streams ending up in landfill.

> Waste and recycling is a heavily regulated area and there are differences in legislation between England and Wales (regulated by the Environment Agency), Scotland (regulated by Scottish Environment Protection Agency), and Northern Ireland (regulated by Northern Ireland Environment Agency). This section provides a brief overview of the key legislation which may affect companies in the FM sector across all countries in the UK.

Duty of Care

All businesses have a legal responsibility to ensure that they produce, store, transport and dispose of waste without harming the environment. You take on a duty of care for your waste from the moment you produce it through to the point at which it is received by a business authorised to deal with its disposal. In order to meet this duty of care, you must:

> Segregate, store and transport your waste appropriately and securely

> Check that your waste is transported and handled by people or businesses that are authorised to do so

> Complete waste transfer notes to document all waste you transfer, and keep them as a record for a minimum of two years

You should also ensure that the site(s) your waste is taken to is authorised to accept it (see section on auditing on page 17).

Figure 5: Controls on Specific Waste Types

WASTE STREAM	AUDIENCE	KEY LEGISLATION	BEST PRACTICE
Hazardous (special) waste	Businesses that produce, handle, transport, recover or dispose of wastes that could cause harm to human health or the environment Note that if you produce or hold hazardous waste at any premises in England and Wales you must register it each year, unless the total quantity is less than 500kg	Hazardous Waste (England and Wales) Regulations* Hazardous Waste Regulations (Northern Ireland)* Special Waste (Scotland) Regulations	Where possible, avoid processes that produce hazardous wastes, and substitute hazardous materials for non-hazardous.
Packaging waste	Businesses that make, fill, sell or handle more than 50 tonnes of packaging each year and that have a turnover of more than £2 million	Packaging (Essential Requirements) Regulations Producer Responsibility Obligations (Packaging Waste) Regulations*	Keep the amount of packaging you use to a minimum, design your packaging so that it is easy to reuse and recycle, and minimise the amount of waste you have to dispose of
Waste electrical and electronic equipment (WEEE)	Businesses that produce, import, distribute or use electrical and electronic equipment, or store, treat or dispose of other people's waste equipment Note that some WEEE is also hazardous/special waste	Waste Electrical and Electronic Equipment (WEEE) Regulations*	Specify energy efficient equipment to reduce impact during the equipment's life-cycle. Plan ahead to consider what type of equipment you will need in the future to minimise the amount of WEEE you produce, and recycle all the WEEE you produce
Batteries	Businesses that produce or import industrial, automotive or portable batteries and accumulators, or supply more than 32 kg of portable batteries per year Note that some waste batteries are also hazardous/special waste	Waste Batteries and Accumulator Regulations*	Specify equipment that does not require batteries, use rechargeable batteries, and provide facilities to recycle batteries in the workplace

Figure 5: Controls on Specific Waste Types

WASTE STREAM	AUDIENCE	KEY LEGISLATION	BEST PRACTICE
Confidential waste	Anyone disposing of confidential information, whether held electronically, in print or any other format must securely destroy it	Data Protection Act*	Ensure that non-confidential waste is not disposed of as confidential as the process for confidential waste is more expensive and energy intensive
End-of-life vehicles	Anyone who sends a waste motor vehicle to be dismantled or disposed of	End of Life Vehicle (Producer Responsibility) Regulations*	Do bear in mind that for old, inefficient vehicles, scrapping them and replacing with newer, more efficient models may be the best environmental option
Animal by-products and food waste	Businesses that collect, transport, store, handle, process and recover or dispose of animal by-products i.e. meat and catering waste of animal origin that is not fit or intended for human consumption	Animal By-products Regulations* Animal By-Products (Enforcement) Regulations*	Work with your catering staff to reduce food waste – make sure staff are trained in portion sizes, using leftovers, correct storage etc
Waste banned from landfill sites	Certain wastes cannot be sent to landfill including: • liquid waste • used tyres • healthcare wastes – such as infectious clinical wastes from hospitals, medical premises or veterinary establishments • wastes with dangerous characteristics – including explosive, corrosive, flammable or oxidising	Landfill Regulations*	You should avoid landfill for all wastes where possible – reusing, reducing and recycling waste where viable, and sending other wastes for energy recovery

*see appendix 1

Waste Carriers, Brokers and Dealers

If a waste carrier takes your waste away, you need to check that they are authorised to accept it. If your waste disposal is arranged by another organisation, that organisation must be registered as a waste broker.

Companies in the FM sector may fall under one of the categories of 'waste carrier, broker or dealer'. For example, you are a broker if you arrange for a waste carrier to collect your clients' waste or recycling. This often includes the activities of property management, facilities management and cleaning companies. See glossary for an explanation of how carriers, brokers and dealers differ in their responsibilities.

Waste transfer notes

A waste transfer note (WTN) (or consignment note if the waste is hazardous) is a document that details the transfer of waste from one person to another. You must complete a waste transfer note every time you move waste from one person to another, although under certain circumstances, for regular waste transfers you can agree a season ticket where one transfer note covers multiple transfers.

Carrying out waste management activities yourself

If you only store waste that you produce and it is removed from your site regularly, you shouldn't need a permit or licence. However, if your business carries out other waste management activities, you are likely to need one. This includes activities such as treating or storing other people's waste.

Complying with the waste hierarchy

As a waste collector or manager you must take all reasonable steps to apply the waste hierarchy and promote 'high quality' recycling (see waste hierarchy, page 7). From 1st January 2014, it is the duty of waste producers to take all reasonable steps to present at least the following key dry recyclables for separate collection: metals, glass, plastics, paper and cardboard.

Controls on specific types of waste

There are legal requirements you must comply with if you recover or dispose of specific waste streams. The key requirements are listed in **Figure 5** on page 9. Please refer to Waste Streams and Disposal Routes for more information about particular waste streams (page 21).

5. CHOOSING A SUPPLIER

With the possibility of buying waste management services directly or indirectly, there are many options when choosing suppliers. National, regional or local contractors, with varying geographical spreads and technology on offer, enable direct relationships with suppliers. Brokers, facilities management companies, cleaning contractors and property management companies offer bundled services, managing contracts for you with value added in different areas. Determining the Key Performance Indicators (KPIs) which are important to your business will help you identify the appropriate supplier to meet your individual needs.

Considerations may include:

- **Total costs** – the cost of bin rentals or purchases, collections, administration and additional services against the rebates provided, any cost savings offered and payback periods
- **Compliance** – the ability to demonstrate compliance including providing permits, licences, and exemptions, complete audit trails for all waste streams and providing advice
- **Sustainability** – minimisation of waste miles through the proximity of facilities and ultimate destinations of your waste
- **Your individual needs** – the right combination of services for you (rather than what suits the supplier) and the flexibility to meet your changing requirements
- **Recycling and recovery rates** – recycling rates achievable and zero to landfill solutions that stand up to scrutiny
- **Infrastructure** – the ability to provide back office support, deal with site and access limitations, and last minute requests
- **Management information** – whether the management information you require can be supplied to enable you to measure and manage your wastes
- **Total waste management** – whether it is more appropriate for you to procure all your waste management services through one point of contact or via specialised waste contractors
- **Supplier Match** – the ability to demonstrate relevant experience and knowledge of providing services to similar types of businesses or within your particular sector

> **Determining the Key Performance Indicators (KPIs) which are important to your business will help you identify the appropriate supplier to meet your individual needs.**



6. COMMINGLED VERSUS SINGLE STREAM RECYCLING

The decision as to whether to separate different recycling streams at source, i.e. on site, has significant financial, environmental and practical implications. Legislation obliges organisations to separate certain waste streams on site, for example waste electrical and electronic equipment, clinical waste and hazardous wastes. However, the decision as to which other wastes to separate is increasingly complex. For out of town or more remote facilities, the choice may be largely dictated by the services available in the area. For better connected sites, the proximity of the relevant waste management facilities will affect the decision but other factors play a greater role.

Single stream recycling

Separating recyclables into single streams on site such as cardboard, glass and cans is likely to maximise the quality, and therefore, the value of the materials. This can result in lower waste management costs and/or rebate. Though as with every commodity market, prices fluctuate affecting the rate of return at any given point in time.

Single stream recycling for multiple waste streams requires significant space, as well as staff time for separating materials and money to buy multiple bins or even balers for lighter materials such as cardboard or plastics. Producers of smaller quantities of waste may find that the number of collections required as a result of separating it into different streams could actually increase the cost to the organisation and its carbon footprint.

Single stream recycling can be financially attractive, maximising the quality of materials recycled and minimising contamination. However, it is best suited to those generating high volumes of fewer materials.

Commingled recycling

Many waste contractors are moving towards commingled collections of dry mixed recyclables. Industry investment in recent years has been focused on Materials Recycling Facilities (MRF) to separate these materials. The quality of MRFs varies significantly but there is a voluntary MRF Code of Practice currently being drafted which will help identify more environmentally sound facilities.

Fewer bins mean less upfront investment and less space which is, for most of us, is before at a premium. A commingled system can be easier to communicate to staff, there may be flexibility to incorporate new waste streams (depending on your waste contractor) and it is likely to maximise the recycling that can be collected.

There is a greater contamination risk than single stream recycling though and you need to know what happens to the waste that goes through a MRF to fully understand

7. WASTE CONTAINERS AND COLLECTION

what is happening with your waste (see section on waste audit, page 17).

The reality of hybrid solutions

The reality is that most companies looking to maximise their recycling and minimise their waste management costs are moving towards a hybrid solution. Large quantities of packaging or manufacturing materials are generally separated and collected in single streams. Dry recyclables, particularly those generated in offices, are usually collected commingled. Yet due to the sheer weight of food waste and annual rises in landfill costs, food is increasingly being separated from general waste.

> **Knowing your waste streams and the amounts of each waste produced is key to making informed decisions about containers and collection frequency.**

The right container and collection frequency is a balance that minimises transport costs and the carbon footprint of waste transportation with practical considerations.

Whilst your waste management contractor may be keen to sell you capital equipment, the business case for a compactor or a baler to reduce the volume of your waste may not stack up. Knowing your waste streams and the amounts of each waste produced is key to making informed decisions about containers and collection frequency.

Considerations may include:

- **Space and other site constraints** – space on site often dictates the size of containers, the number on site and the frequency of collection required. Likewise with any height or width restrictions and limited access times
- **Logistics** – internal bin stores are likely to require the use of wheeled containers and determine the capacity of these, for example only 770 litre wheeled bins or smaller fit through a standard doorway
- **Corporate image** – most companies are unlikely to be keen on having a skip or compactor in front of a building for all to see, even if that is the most convenient, or only place to fit it. Corporate image might dictate the use of smaller wheeled bins tucked away in an out of sight bin store
- **Nature of the waste** – the nature of the waste will influence the container type. Paper and cardboard are likely to blow away if stored in open top bins. Food waste should be stored in sealed containers, to avoid liquid seeping out, with lids to keep odours in and vermin out
- **Health & safety** – overflowing bins and pushing heavy bins around sites are potential hazards. Metal bin lids can trap fingers and can be difficult for one person to lift on their own. Plastic bins, particularly where there is public access, can be fire hazards from cigarette butts or deliberately being set alight.
- **Colours** – colour coding internal and external bins (and also bags) for different waste streams can make it easier for cleaners or porters to understand your waste solution (particularly if English isn't their first language). Alternatively, some organisations prefer containers in corporate colours or colours that blend in with the landscape.

> **Good communication is vital to the success of any recycling and waste management strategy.**



8. IMPROVING HEALTH AND SAFETY

Despite recent improvements, health and safety performance in the recycling and waste sector remains poor in relation to other sectors, with a fatality rate of nine times the industry average. A large proportion of injuries and fatalities are sustained during the collection and transport of waste from customers' sites. But with effective management the risks can be controlled and minimised. Failure to control and manage health and safety may lead to injury, loss of business, prosecution and insurance claims from those that may have been injured in the work place. Companies must have mechanisms in place to identify risks and devise appropriate, practical controls. It is essential that you work with your waste contractor(s) to identify and reduce risks.

Key health and safety considerations may include:

- Accessibility of loading bay for waste collection vehicles, and space for vehicle manoeuvring
- Vehicle / pedestrian segregation such as designated walkways and automatic barrier systems
- Consideration as to appropriate collection times for waste – for example out-of-hours collections may be required in a shopping centre where there are lots of pedestrians
- Manual handling of waste and waste receptacles
- Appropriate frequency of emptying bins so that they do not overflow and present a tripping hazard

- Provision of appropriate personal protective equipment (PPE), such as safety boots, hard hat and high-visibility clothing for staff that interact with waste collection vehicles
- Hazards such as crushing or entrapment from equipment such as compactors and balers. Staff operating such equipment must be suitably trained and safe systems of work must be in place
- Potential hazards that may arise due to the inherently unpredictable nature of waste, such as chemicals or sharps being disposed of incorrectly, and broken glass
- Ensuring that the vehicles used by your waste contractor have appropriate safety controls such as reversing beacons and cameras
- Effective communication of health and safety procedures and risk assessments to those with responsibility for waste such as cleaners, bearing in mind that English may not be the first language of some workers

Larger FM companies are well positioned to provide health and safety leadership as principal procurers of waste and recycling services. Incorporating health and safety into contract tenders can influence standards. You may wish to ask your waste contractor(s) to provide evidence of the controls they have in place – for example evidence of OHSAS 18001 certification (see appendix 1).

9. THE IMPORTANCE OF GOOD COMMUNICATION

Good communication is vital to the success of any recycling and waste management strategy. To encourage and enable participation in a recycling system, everyone involved needs to know what is required of them and why.

Key considerations include:

- Identify who the different audiences are, for example, Board of Directors, green teams, staff, new recruits, cleaning staff, catering staff, visitors and contractors; and focus information on what is most important to that audience to increase the likelihood of them remembering the key points
- Work out what each audience needs to know and how best to communicate with each of those groups. For example an induction might be the best opportunity to communicate with new recruits, signage on bins might be the only way to communicate with visitors
- Understand the potential barriers, for example does a presentation for cleaning staff need translating for those who don't speak English as their first language?
- Most people don't like change. Starting communications before launching a new system and notifying them of forthcoming changes, for example removal of under-desk bins, prepares them for the change and gives a better chance of a successful transition
- Can your in-house marketing or internal communications teams help? They specialise in communicating, know the channels available to your particular organisation and what works best, whether that is email, the company Intranet, posters, flyers or an in-house magazine
- Use a variety of different communication channels as people respond to different media but be consistent across all communications so as not to give confusing messages
- Make communications professional and use the house style to give communications authenticity and validity
- Hold launch days to maximise the impact of – and raise awareness of – any change and open days to remind people about what is required of them; use display stands, interesting facts, giveaways and competitions with prizes to gain attention and interest
- Involve your waste contractor(s) – they roll out new waste management systems all the time and are usually prepared to support your efforts
- Consider how staff can support your communications. Is anyone particularly enthusiastic about recycling or driven by environmental issues? Does your company already have a green team or committee that can help drive through change?
- Don't forget to feed back to staff to let them know what is being achieved, thank them for contributing, encourage them to continue good practices and provide information to support regular and correct usage of the system



10. REGULAR AUDITS

To ensure your recycling and waste system continues to be effective, it is important to conduct regular audits. These can take many forms, but essentially there are three types:

Compliance audit – legal audit to ensure you are complying with your duty of care

Characterisation audit – to understand how much and what types of waste you are producing

Effectiveness audit – to ensure that your waste management system continues to be effective and is responsive to changes that may affect where and when waste is produced

Understanding your objectives will help you determine which audit is appropriate but in reality a combination of all three approaches may suit your business.

Auditing compliance

You must be able to demonstrate that your waste is being dealt with appropriately, in accordance with your duty of care (see legislation section, page 8). In order to do this, it is good practice to conduct periodic audits to ensure that you hold copies of the necessary permits, exemptions, and certificates; and that sites that deal with your waste are permitted to accept that particular waste type.

Auditing the site(s) your waste is taken to will enable you to see for yourself whether your wastes are being dealt with appropriately. If possible, take photographs or ask for



11. MEASURE AND MANAGE

evidence such as process flows and waste treatment procedures. If you have ISO 14001 certification (see appendix 2), your internal management system may require that you conduct such audits periodically.

You should also periodically audit compliance on your own site to ensure that individual waste streams are being dealt with in compliance with legislation e.g. are hazardous and non-hazardous wastes segregated, is catering waste dealt with appropriately and are wastes stored correctly?

Characterising waste

If you already have an effective recycling system in place, you may already have conducted a waste characterisation so that you know what types of waste, and how much, you are producing. Your waste contractor may be able to give you this information in the management reports they provide. However, before you set up a waste management system, or before tendering for a new contract, it is useful to conduct a full characterisation of your waste.

This should tell you:

> How much recyclable waste you produce e.g. paper, cardboard, glass and plastics

> How much waste needs to be dealt with separately e.g. hazardous waste, WEEE, catering waste

> Any other specific waste streams you have which you need to find an outlet for

> How much residual/ general (non-recyclable) waste you have

> The areas or departments in which these wastes are produced

Auditing Effectiveness

It is really important to ensure that your waste system continues to be effective. A lack of on-going communication, staff turnover, changes to office layouts and many other factors can make your recycling scheme less effective unless you continue to manage it.

An effectiveness audit may consider:

> Are there an appropriate number of bins, and are they in the correct locations? Does the positioning of bins make it easy for people to recycle (food caddies in kitchens, paper bins in photocopier rooms etc)?

> Is there cross-contamination between recycling and non-recycling bins?

> Are there certain wastes that are causing problems e.g. do coffee cups keep turning up in the recycling bin when you have a contractor that does not accept them?

> Are bins labelled effectively, are the labels clear and easy to see?

> Are there ‘problem areas’ where recycling is not as effective? If so, why is this – is the culture less supportive, or are different types of wastes produced in these areas?

> Are all materials being recycled that can be? Have you considered CDs, mobile phones, toner cartridges etc?

> Organisations with ISO 14001 and other environmental certifications and those who report on their corporate social responsibility will be required to monitor and show improvement in how they deal with waste. This aside, malpractice in waste management could have legal, financial, environmental, procurement and reputational implications and as with all areas of business, in order to manage waste it needs to be measured. Information should be generated by waste contractors as well as internally and ideally, will be validated externally.

Relevant management information includes:

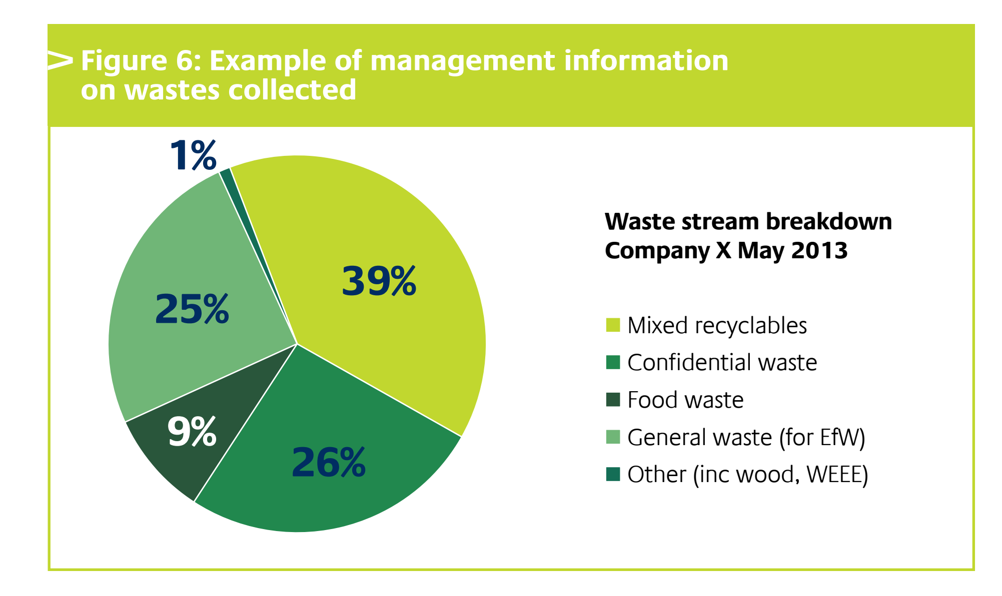
> **Wastes collected** – knowing the weights or volumes of wastes will help you ensure you are receiving what you pay for and that the service meets your changing requirements (see section on waste audit, page 17)

> **Waste hierarchy** – measuring recycling rates only gives part of the picture. Waste prevention and minimisation initiatives need to be measured as well

> **Savings** – waste management costs and rebates will help you understand cost savings and pay back periods. Carbon savings can also be obtained if this is something your company monitors

> **Recycling rates** – recycling rates as a percentage of your total waste will show improvements over time. Understanding what’s left in general waste will identify areas for improvement

> Figure 6: Example of management information on wastes collected





12. WASTE STREAMS AND DISPOSAL ROUTES

- **Where materials go** – with responsibility for where your waste ends up, understanding the processes and end destinations for each of your waste streams is a matter of legal compliance (see section on waste audit, page 17)
- **Business measures** – as a business grows, so too will the waste it generates. It is important for an organisation to understand waste within its standard business measures, whether that's waste generated per person, per square foot of office space, per unit of output, or in relation to turnover
- **Benchmarking** – comparing month against month, quarter against quarter or year against year will start to give meaning to management information and identify trends
- **Service KPIs** – service level key performance indicators (KPIs) need to be set and monitored – for example collections made on time and collections missed
- **Innovations** – monitoring changes made to services over time will let you see where your waste contractor has implemented improvements to your practices and recycling rates over time

> Most businesses produce a number of different waste streams, which will have to be stored and collected separately. It may be necessary to have different waste contractors to deal with the different streams. Some of the more commonly found waste streams, and the various recycling or disposal options for them, are described in the table on the next page.

"Malpractice in waste management could have legal, financial, environmental, procurement and reputational implications."

> Figure 7: Waste streams and destinations

WASTE STREAM	EXAMPLES	DETAILS	DESTINATION
Mixed recycling	Paper, cardboard, plastics, cartons, tins and cans, glass	Dry recyclables collected in a single container (see section on commingled versus single stream recycling)	Mixed recyclables are separated at a Materials Recycling Facility (MRF). Separated materials are then sent to re-processors
Single stream recycling	Glass collections for restaurants and bars, cardboard collections for shops	Recyclables separated on site and collected separately (see section on commingled versus single stream recycling)	Materials generally go straight to re-processors
General or residual waste	Contaminated food packaging	Waste which cannot be recycled and would contaminate recyclables	Can be sent for further processing to extract any 'missed' recyclables. Final destination is either waste-to-energy facility (preferred option) or landfill
Food waste containing animal by-products	Food waste from canteens, kitchens, or outside caterers ('catering waste')	Food waste which contains animal by-products that are no longer fit for human consumption must be collected separately by law	Catering waste must be sent to a facility approved under the Animal By-Products Regulations such as approved anaerobic digestion or composting plants (see appendix)
Food waste not containing animal by-products	Tea bags, fruit cores	Food waste creates methane, a powerful greenhouse gas, when landfilled, diverting it from landfill helps reduce the impacts of climate change	Often disposed of with general waste in landfill. Preferred options are anaerobic digestion or composting. You may compost food waste which does not contain animal by-products yourself if you meet a number of conditions.
Packaging derived from renewable resources (PLA)	Sandwich containers, drink bottles, cups, bags and disposable tableware made from corn or tapioca starch	These items may contaminate mixed recycling so should not be placed in with these wastes	These items are biodegradable but you will need to check with your waste contractor whether they can be collected with food waste
Used cooking oil	Vegetable oil for frying food in restaurants or canteens	Used cooking oil must not be disposed of with the rest of your catering waste or down the drain. Landfills cannot accept liquid waste so you should collect your used cooking oil and store it in suitable containers	Most used cooking oil is used to make biodiesel or incinerated to generate electricity
Confidential waste	Confidential paper documents and electronic storage such as CD ROMs and hard drives	You may have your own shredder for confidential documents, in which case the shredded paper can be recycled with other paper. However, many companies opt to employ a specialist confidential waste contractor	Shredded paper and electronic storage devices are recycled

Figure 7: Waste streams and destinations

WASTE STREAM	EXAMPLES	DETAILS	DESTINATION
Hazardous waste	Waste may be classed as 'hazardous' (such as asbestos, fluorescent tubes, computer monitors) or it may need to be assessed to determine whether it has hazardous properties (for example ink or paint)	Waste which is classed as 'hazardous' is waste which is harmful to the environment or human health. This waste is covered by the Hazardous (or Special) Waste Regulations (appendix 1)	There are many types of hazardous waste and their treatment varies depending on the type of waste and its hazardous properties. Some types of hazardous waste, such as waste oils and batteries, can be recovered. Other wastes such as asbestos cannot be recovered or recycled and must be disposed of in an appropriately permitted facility
Clinical waste	Waste produced from healthcare premises, such as hospitals, pharmacies, clinics, doctors' surgeries and vets	Clinical waste may include sharps, infectious wastes, waste pharmaceuticals etc. They need to be collected by a specialist contractor. Specialist waste receptacles such as sharps bins may also be required	Incineration at an appropriately permitted facility
WEEE	IT equipment, phones, fridges, toner cartridges, batteries, fluorescent tubes	Required to be collected separately (appendix 1)	Sent to authorised treatment facility. More advanced facilities will separate items for testing, repair and reuse. Remaining items will be de-manufactured into component materials for recycling
Construction waste	Rubble, soil, plasterboard	If you are planning a construction project, site waste management plans (SWMPs) are no longer a legal requirement but it is good practice to have one	Almost all construction waste can be recycled. It is often segregated on site, but can be separated into separate recyclable fractions at a construction MRF
Bulky waste	Furniture such as office chairs and desks, large electrical items	Bulky waste items are often reusable, or recyclable when broken down into component parts	Reputable office clearance companies and waste contractors should ensure that unwanted office furniture and other bulky items are repaired or refurbished, and sold or donated for reuse where possible, with remaining items recycled
Textiles	Uniforms, curtains	Textiles should be collected separately, uniforms may need to be shredded for security reasons	Textiles that are in good condition are separated for reuse and, where possible, other textiles are recycled for example as cleaning rags
Unique, more difficult wastes	Those specific to certain manufacturing processes or services for example carbon dust generated in the production of carbon products and carpets used at exhibitions	Explore the options or have a waste contractor (who deals with less common types of waste) explore them for you	There are often more environmentally responsible options than landfill for disposal of these wastes



13. CASE STUDY – A MAJOR FOOD MANUFACTURER ACHIEVES ZERO WASTE TO LANDFILL

This case study is supplied by WCRS:



In early 2011, WCRS in partnership with Mondelez International (MDLZ formerly Kraft Foods), set themselves a target of delivering zero waste to landfill by the end of the calendar year at the manufacturer's Banbury plant. WCRS has been providing complete recycling and waste management services to MDLZ for over five years.

The challenge

In common with most food production facilities, the main challenge was to eliminate contamination of clean recyclable material with food stuff and to reduce the environmental impact of food waste generated in the production process. The site also lacked a recycling culture which discouraged staff from fully participating in the existing recycling scheme.

The solution

WCRS introduced a food waste recycling system to capture waste coffee, dried pasta and tea bags from the production process for composting in line with the waste hierarchy. This complemented MDLZ's existing system where:

- Cardboard, paper, shrink wrap, glass and hessian sacks from the production process are segregated at source and baled for recycling
- Clean mixed recyclables in smaller quantities such as plastics, paper and card are collected in a clean compactor bin and delivered to a Materials Recycling Facility for segregation before being sent for recycling
- Non-recyclable waste, for example materials contaminated with food, is collected in a general waste compactor which is taken to an incinerator and burned to generate energy from waste.

WCRS developed clear guidelines for MDLZ's staff to enable as much material as possible to be collected for recycling through all systems and to ensure that good, clean, recyclable material remained uncontaminated. These guidelines were communicated through channels including toolbox talks, clear signage and posters.

The company also advised MDLZ about reducing waste in the supply chain. Pressure was put on suppliers of food product to reduce packaging.

The results

WCRS and MDLZ, implemented a food waste recycling service at the site. Communications to staff improved the quality of recycling across all wastes and contaminated waste was minimised.

This resulted in substantial improvements: from January to July 2011, MDLZ sent over 428 tonnes of waste to landfill but from August to December 2011, nothing was sent to landfill and over 90 tonnes were diverted to create energy from waste.

APPENDIX 1 – LEGISLATION AND CERTIFICATIONS



Legislation concerning waste generation and handling:

The Waste (England and Wales) Regulations 2011

www.legislation.gov.uk/uksi/2011/988/made

The Hazardous Waste (England and Wales) Regulations 2005

www.legislation.gov.uk/uksi/2005/894/contents/made

Hazardous Waste Regulations (Northern Ireland)

www.legislation.gov.uk/nisr/2005/300/contents/made

Special Waste (Scotland) Regulations

www.legislation.gov.uk/uksi/1997/257/contents/sld/made

Special Waste (Scotland) Regulations – 2004 amendment

www.legislation.gov.uk/ssi/2004/204/contents/made

Packaging (Essential Requirements) Regulations

www.legislation.gov.uk/uksi/2003/1941/contents/made

Producer Responsibility Obligations (Packaging Waste) Regulations 1997

www.legislation.gov.uk/uksi/1997/648/contents/made

Waste Electrical and Electronic Equipment (Waste Management Licensing) (England and Wales) Regulations 2006

www.legislation.gov.uk/uksi/2006/3315/contents/made

Waste Batteries and Accumulators Regulations 2009

www.legislation.gov.uk/uksi/2009/890/contents/made

Data Protection Act

www.legislation.gov.uk/ukpga/1998/29/contents

End-of-Life Vehicles (Producer Responsibility) Regulations 2005

www.legislation.gov.uk/uksi/2005/263/contents/made

www.legislation.gov.uk/uksi/2010/1095/contents/made (2010 amendments)

Animal By-products Regulations

www.legislation.gov.uk/uksi/2005/2347/contents/made

The Animal By-Products Regulations 2005

www.legislation.gov.uk/uksi/2011/881/contents/made (England)

www.legislation.gov.uk/wsi/2011/600/contents/made (Wales)

www.legislation.gov.uk/ssi/2011/171/contents/made (Scotland)

www.legislation.gov.uk/nisr/2011/124/contents/made (Northern Ireland)

The Landfill (England and Wales) Regulations 2002

www.legislation.gov.uk/uksi/2002/1559/contents/made

Certifications

OHSAS 18001

OHSAS 18001 is a British Standard for occupational health and safety management systems. It exists to help organisations put in place sound occupational health and safety performance and thus control occupational health and safety risks.

www.bsigroup.co.uk/en-GB/bs-ohsas-18001/

ISO14001

ISO 14001 specifies the requirements for an environmental manangement system. It covers all of the environmental aspects of a system that are within the control and influence of an organisation, from energy consumption to waste disposal to modes of transport for staff.

www.bsigroup.co.uk/en-GB/iso-14001-environmental-management/

APPENDIX 2 – USEFUL TOOLS AND INFORMATION

Useful tools

Waste carrier, broker or dealer

The Environment Agency has built an online tool to help you work out whether your organisation has to register as a waste carrier, broker or dealer, or if you're exempt from registration.

The tool has been created to provide guidance on some of the most common registration scenarios.

www.environment-agency.gov.uk/business/sectors/143914.aspx

Miscellaneous

Landfill tax

Landfill Tax is a tax on the disposal of waste. It aims to encourage waste producers to produce less waste and recover more value from waste, and to use more environmentally friendly methods of waste disposal. The HM Revenue & Customs guide to the Landfill Tax can be found here:

www.tinyurl.com/ptusa68

Courtauld Commitment

The Courtauld Commitment is a voluntary agreement aimed at improving resource efficiency and reducing the carbon and wider environmental impact of the grocery sector.

www.wrap.org.uk/category/initiatives/courtauld-commitment



Good Practice Guide

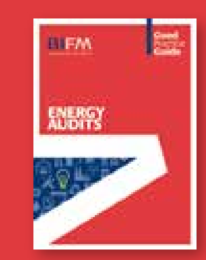
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